AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for processing imagery using an Electro-Optical (EO) system, comprising the steps of:

selecting a first frame of data as a template frame;

capturing a second frame of data using the EO system;

correlating at least a portion of the second frame with the template frame to generate a shift vector;

registering the second frame with the template frame by interpolating the second frame using the shift vector and re-sampling by spatially oversampling at least a portion of the second frame by a factor greater than one to produce a registered frame;

re-sampling the template frame;

combining the re-sampled template frame and the registered frame to generate an averaged frame; and

selecting the averaged frame as an updated template frame to which a subsequently captured frame of data is registered, wherein the first and second frames are obtained from a stationary infrared imagery.

2. (Original) The method of claim 1, wherein the step of registering the second frame uses bilinear interpolation.

3. (Original) The method of claim 1, comprising the step of:

adding motion to a line of sight of the EO system using a commanded line of sight pattern or a random pattern to generate multiple frames of data.

4. (Original) The method of claim 1, comprising the step of:

spatially filtering the averaged frame to enhance edges within the averaged frame.

5. (Original) The method of claim 1, comprising the step of:

utilizing a histogram projection to change a pixel depth of the averaged frame.

6. (Original) The method of claim 1, comprising the step of:

re-sampling the averaged frame.

7. (Original) The method of claim 6, wherein the step of re-sampling the averaged frame uses bilinear interpolation.

8. (Original) The method of claim 1, comprising the steps of:

capturing a first frame of data using the EO system; and

temporally filtering at least the first frame to generate the template frame.

9. (Previously Presented) The method of claim 8, wherein the step of re-sampling the template frame uses bilinear interpolation.

10. (Currently Amended) An Electro-Optical (EO) system for processing imagery, comprising:

a sensor for generating input data; and

a processor module coupled to the sensor, the processor module configured to:

select a first frame of data as a template frame;

capture a second frame of data using the EO system;

correlate at least a portion of the second frame with the template frame to generate a shift vector;

register the second frame with the template frame by interpolating the second frame using the shift vector and re-sampling by spatially oversampling at least a portion of the second frame by a factor greater than one to produce a registered frame;

re-sample the template frame;

combine the re-sampled template frame and the registered frame to generate an averaged frame; and

select the averaged frame as an updated template frame to which a subsequently captured frame of data is registered, wherein the first and second frames are obtained from a stationary infrared imagery.

11. (Previously Presented) The EO system of claim 10, wherein the processor module, in registering the second frame, is configured to use bilinear interpolation.

12. (Original) The EO system of claim 10, wherein the processor module is configured to:

add motion to a line of sight of the EO system using a commanded line of sight pattern or a random pattern to generate multiple frames of data.

13. (Original) The EO system of claim 10, wherein the processor module is configured to:

spatially filter the averaged frame to enhance edges within the averaged frame.

14. (Original) The EO system of claim 10, wherein the processor module is configured to:

utilize a histogram projection to change a pixel depth of the averaged frame.

15. (Original) The EO system of claim 10, wherein the processor module is configured to:

re-sample the averaged frame.

16. (Previously Presented) The EO system of claim 15, wherein the processor module, in re-sampling the averaged frame, is configured to use bilinear interpolation.

17. (Original) The EO system of claim 10, wherein the processor module is configured to:

capture a first frame of data using the EO system; and

temporally filter at least the first frame to generate the template frame.

18. (Previously Presented) The EO system of claim 17, wherein the processor module, in re-sampling the template frame, is further configured to use bilinear interpolation.

19. (Previously Presented) The method of claim 1, comprising successively selecting further frames of data at intervals of a predetermined number of frames to be updated template frames.

20. (Previously Presented) The apparatus of claim 10, wherein the processor module is configured to successively select further frames of data at intervals of a predetermined number of frames to be updated template frames.

21. (Currently Amended) A method of enhancing visual images, comprising the steps of:

(a) selecting a first frame of image data as a template frame;

(b) capturing a second frame of image data;

(c) aligning the second frame of image data with the template frame of image data by correcting line-of-sight deviations therebetween;

(d) spatially oversampling at least a portion of the aligned second frame of image data by a factor greater than one;

(e) integrating the spatially oversampled portion of the aligned second frame of image data with image data of the template frame; and

(f) repeating steps (b) through (e) to process subsequently-captured frames of data into a continuous video stream, wherein the first and second frames of image data are based on an input data from a stationary sensor.

22. (Currently Amended) A system for enhancing visual images, comprising:

a sensor for generating input data; and

a processor module coupled to the sensor, the processor module configured to:

(a) select a first frame of image data as a template frame;

(b) capture a second frame of image data;

(c) align the second frame of image data with the template frame of image data to correct line-of-sight deviations therebetween;

(d) spatially oversample at least a portion of the aligned second frame of image data by a factor greater than one;

(e) integrate the spatially oversampled portion of the aligned second frame of image data with image data of the template frame; and

(f) repeat steps (b) through (e) to process subsequently-captured frames of data into a continuous video stream, wherein the first and second frames of image data are based on an input data from a stationary sensor.